REMARKS

The Official Action dated April 3, 2008 has been carefully considered. Accordingly, Applicants believe the following Remarks demonstrate the patentability of claims 30-36 and are therefore sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

In the Official Action, claims 30-32 and 34-35 were rejected under 35 U.S.C. §102(b) as being anticipated by EP 707 065 A2 (EP '065). The Examiner asserted that EP '065 teaches a method for serologically identifying with improved accuracy an individual known to be grass allergic as *Parietaria* allergic. Specifically, the Examiner asserted that the claimed individual known to be weed pollen allergic is anticipated both by grass pollen allergic individuals shown in Example 8 and by the fact that the diagnostic method of EP '065 is directed toward diagnostic procedures for all individuals, whereby a diagnostic procedure which identifies *Parietaria* allergic individuals from all individuals would inherently identify *Parietaria* allergic individuals from weed pollen allergic individuals.

Claims 30, 33, 34 and 36 were rejected under 35 U.S.C. §103(a) as being obvious and unpatentable over EP '065 in view of Duro et al. The Examiner relied on Duro et al as teaching a method of contacting serum with recombinant Par j 2 to detect pollen allergy, wherein Par j 2 is a new major allergen of *Parietaria judaica* pollen that reacts with the IgE of 82% of *Parietaria judaica* pollen sensitive patients. The Examiner asserted it would have been obvious to substitute Par j 2 for Par j 1 in a diagnostic method of EP '065 in view of the Duro et al teachings and a high rate of success would have been expected.

However, Applicants submit that the methods defined by claims 30-36 are neither anticipated by EP '065 not rendered obvious over EP '065 in view of Duro et al. Accordingly, these rejections are traversed and reconsideration is respectfully requested.

More particularly, as defined by claim 30, the invention is directed to a method for serologically identifying with improved accuracy an individual known to be weed pollen allergic as *Parietaria* allergic. The method comprises selecting an individual known to be weed pollen allergic, wherein it is not known if the individual is *Parietaria* allergic, and selecting a pure *Parietaria* allergen component known to have limited or no cross-reactivity. The method further comprises contacting serum from the selected individual known to be weed pollen allergic with the selected pure allergen component, which is pure Par j 1 or Par j 2 allergen component, determining the presence of IgE binding to said pure Par j 1 or Par j 2 allergen component; and identifying the individual as *Parietaria* allergic if the contacted serum contains IgE binding to said pure allergen component.

Thus, the present methods are for accurately identifying a *Parietaria* allergic individual, particularly when the individual is known to be generally weed pollen allergic but it is not known if the individual is *Parietaria* allergic. Applicants have determined that *Parietaria* pollen extract binds IgE from individuals not exposed to *Parietaria* pollen, while the recited pure allergen component Par j 1 or Par j 2 does not bind to IgE from such individuals. However, Par j 2 does bind IgE from most allergic individuals who are primarily sensitized to *Parietaria* pollen, as does Par j 1. Thus, Applicants have developed the present methods for specific identification of *Parietaria* allergic individuals from those known to be weed pollen allergic using a pure allergen component known to have limited or no cross-reactivity.

Ep '065 was cited in Applicants' Information Disclosure Statement and is discussed at page 2 of the present application. EP '065 describes recombinant *Parietaria* proteins and derived peptides for use in therapy and diagnosis of *Parietaria* pollen-induced allergy. However, EP '065 does not disclose or teach the use of a pure allergen component and does not teach the use of any of the proteins or peptides as reagents to distinguish between genuine

Parietaria pollen sensitization and cross-reaction-mediated seropositivity to *Parietaria* pollen extract. In fact, in the "Immunoassay" discussion at page 7, lines 5-31, EP '065 discloses that a mixture of peptides may be used either as an immunogen in a composition or as a diagnostic agent, thereby demonstrating the EP '065 does not contemplate the use of a pure *Parietaria* allergen component, particularly a pure *Parietaria* allergen component known to have limited or no cross-reactivity, as compared with mixtures of *Parietaria* allergen components having cross-reactivity.

Further, while the Examiner relies on Example 8 of EP '065, Example 8 does not disclose identification of an individual known to be weed pollen allergic as *Parietaria* allergic that is required by claim 30 and does not indicate that a pure *Parietaria* allergen component known to have limited or no cross-reactivity is employed so that the presence of IgE identifies an individual as *Parietaria* allergic, rather than exhibiting cross-reactivity to one or more *Parietaria* allergens. To the contrary, EP '065 discloses that western blot analysis "**of *Parietaria* protein extracts**" (page 11, lines 55-56, emphasis added) was conducted. Thus, Example 8 employed extracts, not a pure allergen component. Additionally, EP '065 discloses that using "**pools of sera**" (page 11, line 56, emphasis added) from Italy and Canada showed that a 14 kDa component was recognized by both pools of sera. One of ordinary skill will appreciate that using pooled sera does not provide any diagnostic value relative to an individual.

As disclosed in the present application, for example at page 4, *Parietaria* is a Mediterranean weed. In this regard, the Examiner's attention is directed to the attached copy of a map from the website of the Global Biodiversity Information Facility (www.gbif.org) showing the worldwide known occurrences of *P. judaica*, see http://data.gbif.org/species/13731576. According to this resource, *P. judaica* is not reported as occurring in Canada, thus Canadian patients can be anticipated to have a very low risk of being primarily sensitized to *P. judaica*

pollen. Yet the Canadian patients in EP '065 have IgE that binds to extract of *P. judaica* pollen, which binding may well be due to components of the extract that are cross-reactive. As demonstrated in the present specification, patients from the U.S. (having very few occurrences of *P. judaica*) did not have any IgE against the pure allergen component Par j 2, despite showing binding to *P. judaica* extract. That is, the present specification, at page 4, lines 4-6, discloses that sera from patients from Scandinavia, the U.S. and Austria contained IgE that binds to components in *Parietaria* extract (i.e. not pure components). However, only a few Austrian and no Scandinavian or American patients' sera had IgE that bound to Par j 2 (i.e. to the pure component). On the other hand, the Mediterranean patients, who are primarily sensitized to *Parietaria*, contained IgE that bound to Par j 2.

Anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q. 2d 1949, 1950 (Fed. Cir. 1999). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill; inherency may not be established by probabilities or possibilities and the mere fact that a certain thing may result from a given set of circumstances is not sufficient, *In re Robertson*, 49 U.S.P.Q. 2d 1949, 1950-51 (Fed. Cir. 1999). Similarly, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic, *In re Rijckaert*, 28 U.S.P.Q. 2d 1955, 1957 (Fed. Cir. 1993).

EP '065 fails to teach the use of a pure allergen component for serologically identifying an individual, particularly for serologically identifying an individual as *Parietaria* allergic, and EP '065 fails to teach or suggest selecting a pure allergen component known to have limited or

no cross-reactivity. Accordingly, EP '065 does not disclose each and every element as set forth in the claims and therefore does not anticipate the presently claimed methods. While the Examiner has asserted that the steps of the present methods are inherent in the teachings of EP '065, specifically that identifying *Parietaria* allergic individuals from all individuals will inherently identify *Parietaria* allergic individuals from weed pollen individuals, the Examiner has not demonstrated any extrinsic evidence which makes clear that the missing elements are necessarily present in the EP '065 teachings, and that the claimed methods would be so recognized by persons of ordinary skill. To the contrary, the teachings of EP '065 relating to the use of a mixture of peptides for diagnostic use (page 7, lined 16-17) and *Parietaria* extract with pooled sera (page 11, lines 55-57) contradict the Examiner's assertions regarding inherency as no pure allergen component is employed and no individual is diagnosed using the pooled sera. Thus, EP '065 does not inherently describe the claim elements. Accordingly, EP '065 does not anticipate the present claims under 35 U.S.C. §102, whereby the rejection has been overcome. Reconsideration is respectfully requested.

Moreover, the deficiencies of EP '065 are not resolved by Duro et al. In this regard, the teachings of Duro et al have been discussed in detail in various of Applicants' previous responses. Particularly, Duro et al fail to teach a method for serologically identifying an individual known to be weed pollen allergic wherein it is not known if the individual is *Parietaria* allergic. That is, the Duro et al publication is directed to a single allergen source, namely *Parietaria judaica* pollen, and does not mention other allergen sources or individuals known generally to be weed pollen allergic. While Duro et al seek to characterize one of at least 9 allergen components of this source, namely Par j 2, Duro et al are not concerned with any other allergy source. Further, by showing that 82% of the *Parietaria judaica* pollen sensitive patients' serum had IgE reacting with Par j 2, Duro et al merely show that Par j 2 is a major allergen (see

page 297, right column, lines 18-21), and no other findings or conclusions are provided by Duro et al. Particularly, Duro et al do not teach or suggest that Par j 2, or any other pure allergen component, can be employed in order to serologically identify with improved accuracy a *Parietaria* allergic individual from a general weed pollen allergic individual, as recited in the present claims. In fact, while claim 30 recites the step of selecting an individual known to be weed pollen allergic, wherein it is not known if the individual is *Parietaria* allergic, Duro et al employs serum from individuals known to be *Parietaria* allergic. Further, while claim 30 requires selecting a pure *Parietaria* allergic component known to have limited or no cross-reactivity, Duro et al fail to teach, suggest or recognize that Par j 2 has limited or no cross-reactivity.

Importantly, Duro et al provide no teaching or suggestion that Par j 2 is a known pure allergen component with limited or no cross-reactivity. The previously submitted Declaration Under 37 C.F.R. 1.132 of the co-inventor Dr. Paolo Colombo confirms that the Duro et al paper does not disclose or suggest that the Par j 2 allergen has limited or no cross-reactivity with allergen components from other weed pollen allergen sources (paragraph 4) and thus does not teach or suggest using Par j 2, or any other purified allergen component, in methods for diagnosis of the actual sensitizing source from a variety of possible allergen sources (paragraph 4). As Duro et al do not teach or suggest that Par j 2 is a pure allergen component with limited or no cross-reactivity, and therefore suitable for use in identifying an individual known to be weed pollen allergic as *Parietaria* allergic, Duro et al do not disclose a method for such identification and do not resolve the defieincies of EP '065. Only in light of Applicants' specification can the Examiner conclude that Duro et al's patients having serum which do not react with Par j 2 are inherently not allergic to *Parietaria judaica* and Duro et al's patients having serum which reacts with Par j 2 are *Parietaria* allergic.

In determining patentability under 35 U.S.C. §103, it is necessary to determine whether there was an apparent reason to combine the known elements in the fashion of the claim at issue, *KSR International Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1740-41 (2007). Neither EP '065 not Duro et al provide any apparent reason to combine their teachings in a manner resulting in the methods of the present invention. Accordingly, the combination of EP '065 and Duro et al does not render the present methods obvious, whereby the rejection under 35 U.S.C. §103 has been overcome. Reconsideration is respectfully requested.

It is believed that the above represents a complete response to the Official Action. Please charge any fees required in connection with the present communication, or credit any overpayment, to Deposit Account No. 50-3915

Respectfully submitted,

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